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WEBINAR: COVID-19: Can the Science of Aging move us Forward?
March 24, 2020
Aging is the strongest risk factor for all age related diseases...

Geroscience

Hallmarks of Aging

- Metabolic Dysregulation
- Epigenetic Changes
- Decrease in quality and quantity of Mitochondria
- Inflammation
- Proteostasis failure
- Accumulation of senescence cells
- Decrease in chromosome maintenance (DNA repair efficiency) (Telomere erosion)
- Immune Dysfunction

Targeting the Hallmarks

- Bitech:
  - Restorbio
  - Lifebiosciences
  - CohBar
  - Juvenescence
  - Cambrian
  - Apollo
  - (more…)
- Pharmaceuticals
  - Regeneron
  - (Calico?)
• Healthspan & lifespan has been extended in numerous animal models.
• Relevant gero-protectors have been used in humans. (Metformin, Rapamycin, ....)

Rapamycin (mTOR inhibitor)

Rapamycin + metformin
How to translate these achievements to humans?

Biotech & Pharmaceuticals: Developing drugs

Drugs targeting disease

Biological discoveries in areas of diseases

FDA and aging

If aging is not considered as a preventable conditions:
1) Healthcare insurers would not pay for their clients.
2) Pharmaceuticals will not develop other, better and combination of drugs.
• (Proof of concept) To show that composite of age-related diseases can be prevented by metformin

• (FDA regulation) To obtain a new indication for the delay of age-related morbidities.
We are frustratingly behind!

• Elderly adults account for most of the mortality due to COVID-19
• The biology of aging drives diseases of aging, underlying the cause for this excess mortality
• Hallmarks of aging are targets for gero-therapeutics.
• Metformin and mTOR inhibitors maybe modulating response to viral infection in older adults
• They can target immune decline and inflammmaging and increase whole body resiliency to severe illness.
• FDA, CDC, BARDA needs to rush into action!

• This is relevant to future pandemics, blinded to cause!